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38. **(Amended)** An isolated peptide encoded by an isolated polynucleotide **[according to Claim 35]** which is at least 70% identical to SEQ ID NO:1 or its complementary strand wherein said polynucleotide encodes a ligand of the opioid receptor-type 1 (ORL_1) receptor.

40. **(Amended)** An isolated peptide according to Claim 39, which is an inhibitor **[a ligand]** of the opioid receptor-like 1 (ORL_1) receptor.

IN THE ABSTRACT:

Please add the attached abstract on a separate page as page 33.

REMARKS

The Specification has been amended to add an abstract on a separate page. Claims 35-38 and 40, have been amended to clarify the invention. Support for amended Claim 35 may be found in the Specification at page 16, lines 21-23. No new matter has been added herewith. As a result of the Amendment, Claims 35-42 and 47 are pending in the application.

Rejection under 35 U.S.C. §112, first paragraph

Claims 38-42 have been rejected under 35 U.S.C. §112, first paragraph, because the Examiner believes that the specification is not enabling for any peptide ligand other than those of SEQ ID NOS:1-4.

Claim 38 has been amended to more precisely claim the metes and bounds of the invention. As recited in the claim, the claimed peptide must be encoded by a polynucleotide at least 70% identical to SEQ ID NO:1 and must also function as a ligand of the opiod receptor-type 1 receptor. The specification is enabling for such ligands because one of skill in the art knows that a ligand can be any molecule that binds to the receptor. As explained in the specification, such may be analogs or fragments of the peptide according to the invention (see page 3, lines 19-26). One of skill in the art would know which acceptable amino acid changes would still allow the peptide to be an active ligand of the ORL_1 receptor. Since all that needs to be conserved is binding with the receptor, a number of appropriate conservative amino acid substitutions would be exceedingly well-known. For example, substituting a basic amino acid for another basic amino acid would be acceptable. Moreover, a large number of polynucleotide molecules that are 70% identical to SEQ ID NO:1 encode the same peptide as SEQ ID NO:1 itself. Thus, one of ordinary skill in the art can readily make and use the invention as claimed based on the specification as filed.

Claim 40 is rejected because the Examiner believes that there is no guidance as to what an "ORL1 ligand" could be and, therefore, the claim can be read to encompass any isolated polypeptide. However, Claim 40 has been amended to recite "an inhibitor of the opiod receptor-like 1 receptor." Since Claim 40 depends ultimately from Claim 38, the ORL1 ligand has to be encoded by a polynucleotide which is 70% identical to SEQ ID NO:1. Therefore, the scope of this claim can clearly be readily determined by one having ordinary skill in the art as encompassing specific peptides.

In light of the above amendments and arguments, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §112, first paragraph.

Rejection under 35 U.S.C. §112, second paragraph

Claims 35-37, 40, and 47 have been rejected under 35 U.S.C. §112, second paragraph, because the Examiner believes they are indefinite. More specifically, the Examiner believes that Claim 40 refers to an arbitrary protein name. However, ORL1 is a name generally accepted in the scientific literature. The ORL1 (opioid receptor-like 1) receptor is an orphan receptor whose human and murine DNA have been already characterized.

Claim 37 has been amended to remove the reference to "more than 15 nucleotides". Therefore, any rejections due to indefiniteness are moot.

Claims 35 and 36 are believed indefinite for recitation of "corresponds to" The Examiner suggests amending the language to "% identical to". Claim 47 is rejected as being dependant on this claim. However, the language has been amended as suggested by the Examiner.

In view of the amendments and arguments presented above, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

Rejection under 35 U.S.C. §102

Claim 37 is rejected under 35 U.S.C. §102(b) as being anticipated by WO 9202554. The Examiner believes that WO 9202554 discloses a polynucleotide with more than 15 nucleotides identical to the sequence set forth in SEQ ID NO:1. However, reference to this polynucleotide has been removed from Claim 37, and the claim has been amended to read "An isolated polynucleotide comprising at least SEQ ID NO:1, or its complementary strand", so the rejection is overcome.

Conclusion

In light of the Applicant's amendment to the claims and specification as well as the foregoing Remarks, it is respectfully submitted that the present aplication is in condition for allce. Should the Examiner have any remining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 24 Aug. 2000

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